CCTT's SAF
Multiple Federation Developments

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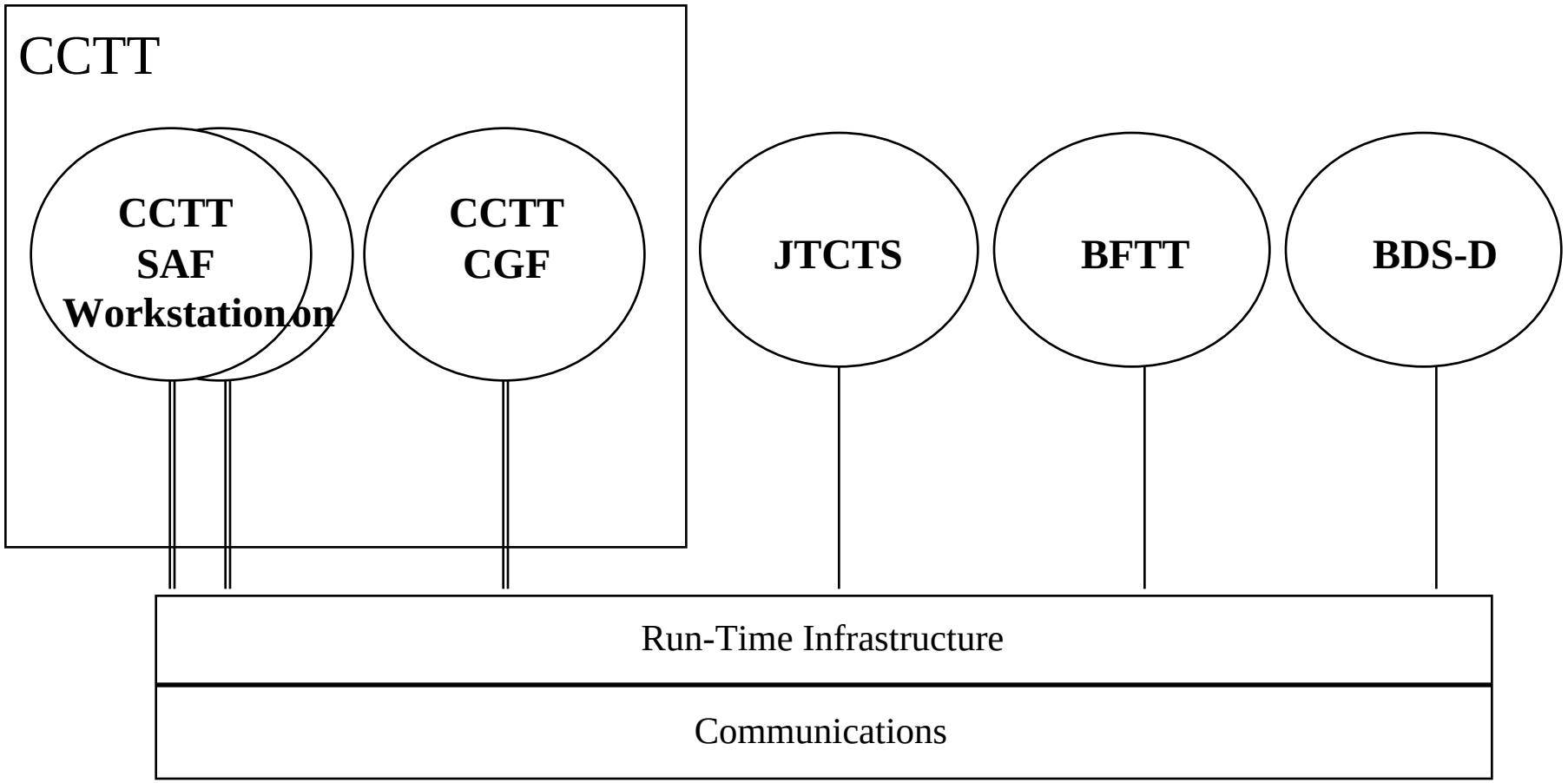
CCTT SAF FOM Developments

- As part of the Platform Proto-Federation
  - Goal: Diverge from DIS where HLA provides potential benefits
- As part of the multi-language/multi-platform federation (RTI F.0 Ports and Testing)
  - Goal: Minimize divergence from DIS

Platform Protofederation

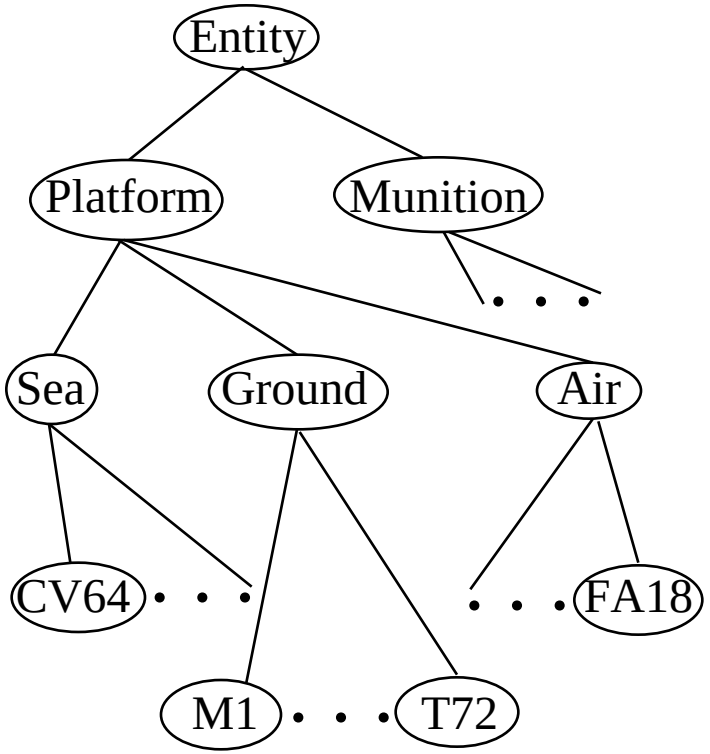


PPF FOM Design

- Use Class Hierarchy to Filter
- Attributes
  - Specialize Attributes by Class type
    - E.g., Explicit Articulations for appropriate Class
    - Take advantage of inheritance
  - Use Class type as Entity Type rather than explicit Attribute
  - Use Enumeration Attributes rather than DIS bit packing
    - E.g., Appearance Enumerations
- Specialize Interaction Events
  - E.g., Weapons Fire vs. Weapons Launch
  - Use RTI IDs rather than DIS Entity IDs in Interactions

PPF FOM

Class



Attributes

Standard Entity
- Location
- Velocity
- ID

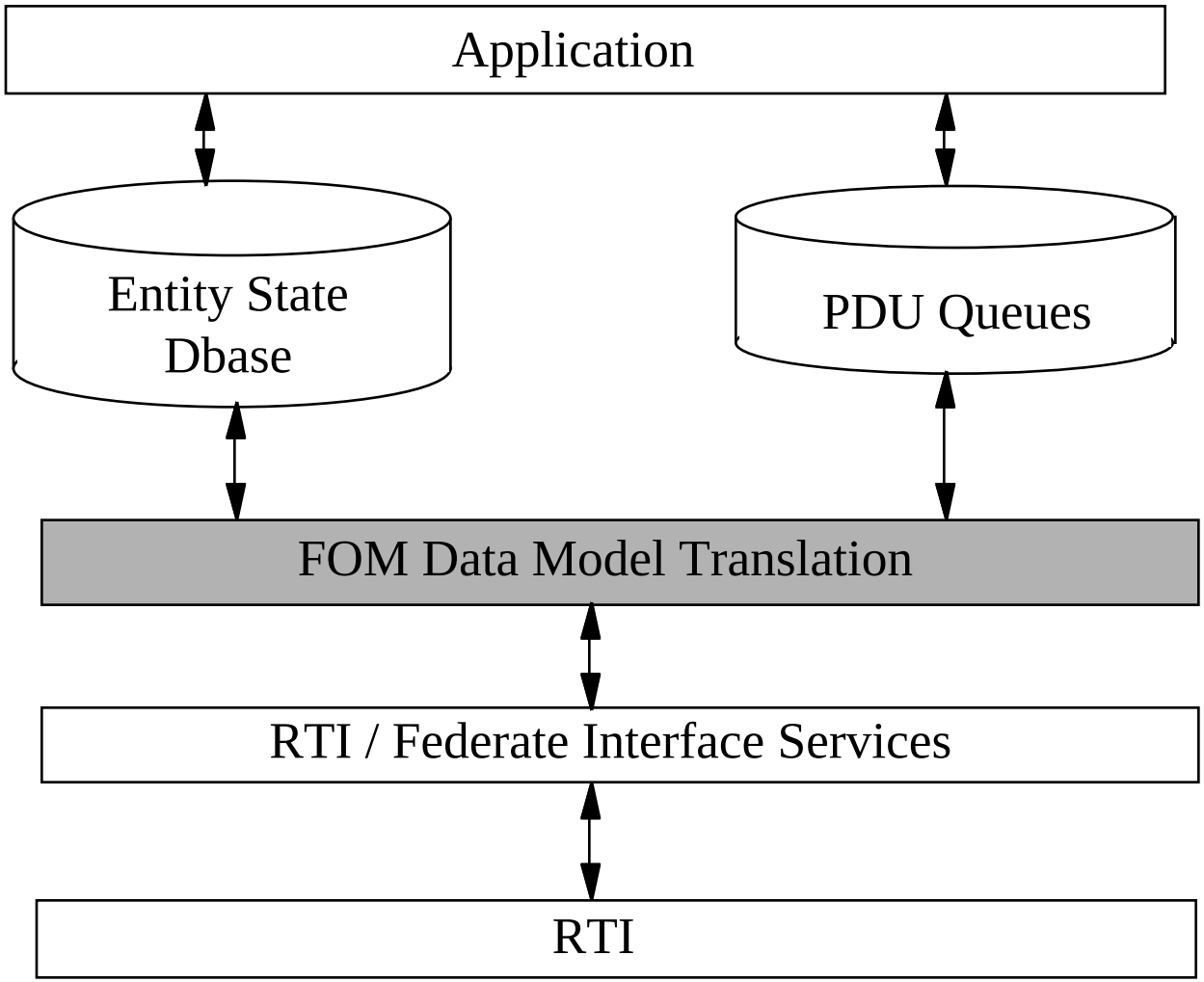
Ground Vehicle
- Appearance Smoke
- Appearance Trailing
- etc.

Tracked Vehicle
- Turret Articulation
- Gun Articulation

Interactions

Collision
Detonation
Weapon Fire
Weapon Launch
Air Vehicle Launch

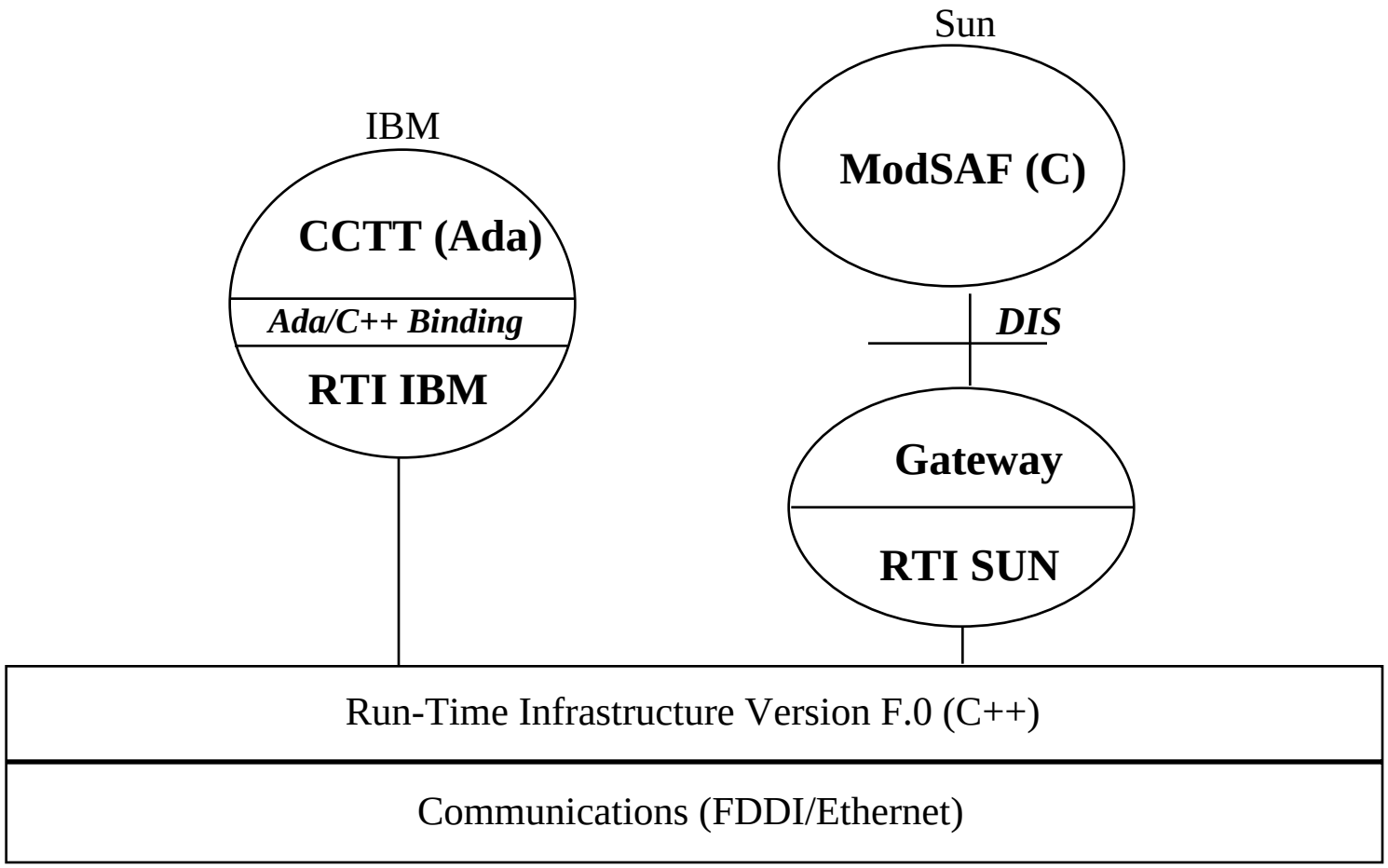
CCTT SAF Logical Data Flow



CCTT/JPSD FOM

- Goal: Minimize DIS Translation
- Class Hierarchy
  - ENTITY CLASS (No class filtering)
  - CCTT SAF maintained its leaf class types to reduce code modification (no other benefit)
- Attributes
  - Entity State PDU attributes and Bit Packing
    - Issue over appearance yet unresolved (agreed to disagree for test)
    - Issue over articulations yet unresolved (agreed to disagree for test)
- Interactions
  - Recoded DIS Event PDUS (Use Entity IDs not RTI Ids)

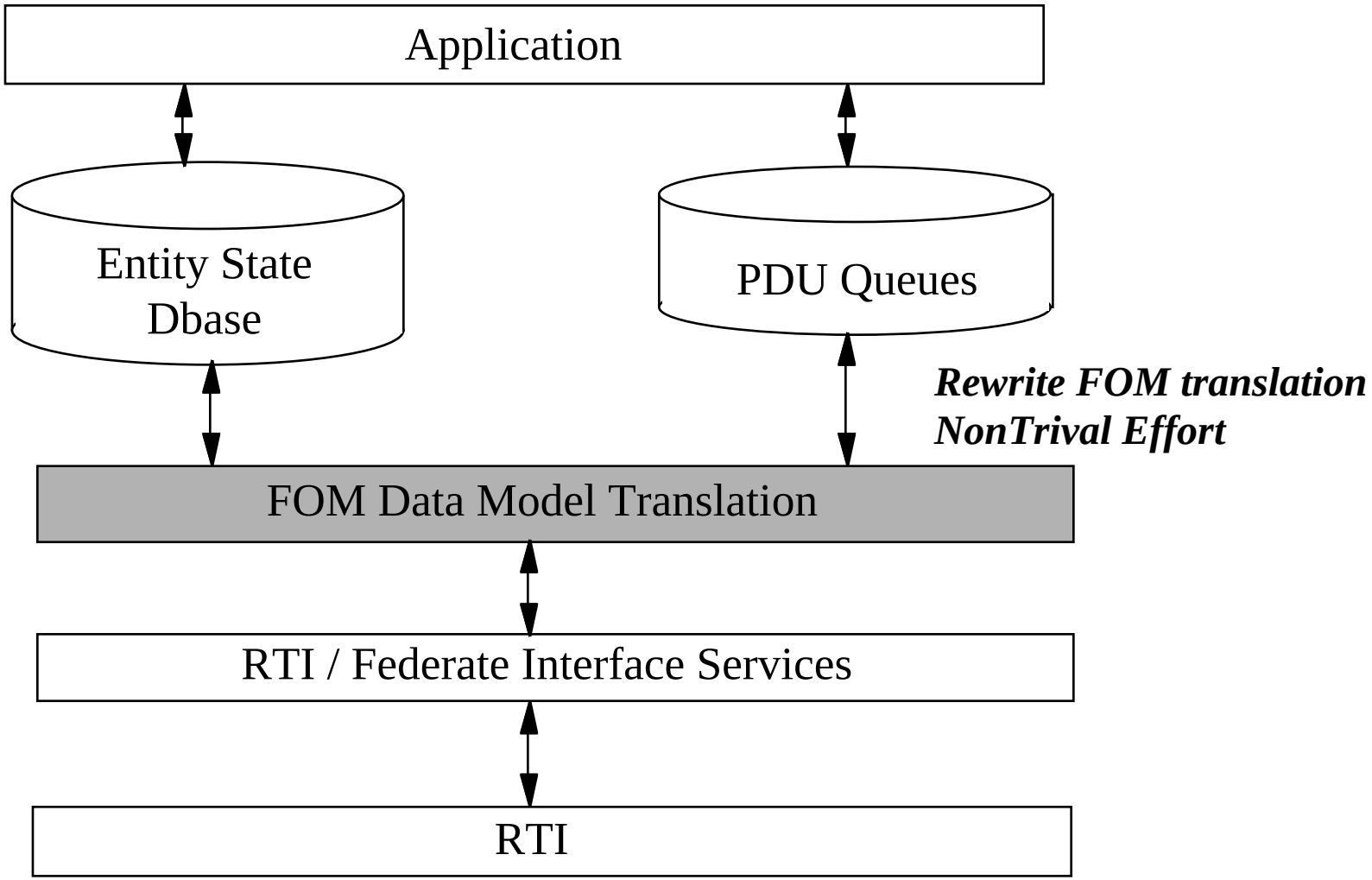
Multi-Language, Multi-Platform Experiment



CCTT/JPSD FOM

Class	Attributes	Interactions
Entity	Standard Entity State PDU Fields	Collision Detonation Fire

CCTT SAF Logical Data Flow Revisited



Lessons Learned

- No single DIS motivated RPR FOM will suit every project
- To obtain interoperability some core set of RPR FOMs must be developed
- FOM changes require non-trival software modifications; a data-driven FOM middleware translator is required.